

## THE OCCURRENCE OF *GYMNODINIUM BREVIS* IN THE WESTERN GULF OF MEXICO

*Gymnodinium brevis* Davis has been associated with mass fish kills in the Gulf of Mexico near the west coast of southern Florida since 1947, but has never been reported from other locations. Between 1948 and 1950 the U. S. Fish and Wildlife Service maintained a laboratory at Sarasota, Florida, and although numerous samples were collected throughout large areas of the adjacent Gulf waters during this period, *G. brevis* was not observed. In November 1952, a bloom of *G. brevis* which occurred in an area south and southwest of Sanibel Island was investigated by U. S. Fish and Wildlife Service personnel aboard M/V *Alaska*. From September 1953 to January 1955, *G. brevis* was found consistently in one location or another along the Florida west coast and since January 1955, it has been found sporadically and in low concentrations in that area.

During the period 1953-55, sea water samples were collected at Galveston, Texas and along the Gulf coast between Galveston and Florida, but no *G. brevis* were observed.

In September 1955, we investigated a fish kill near Port Isabel, Texas. Twelve samples were collected from an area of the Gulf of approximately 20 square miles between the mouth of the Rio Grande and a point approximately 10 miles north of Port Isabel. All of the samples contained *G. brevis* with concentrations ranging from 50

to 500 per milliliter. A sample collected near Port Isabel in Laguna Madre did not contain *G. brevis*. Fish were not dying at the time of our investigation, but dead fish extended along the Gulf beaches from the mouth of the Rio Grande to a point 17 miles north of Port Isabel.

C. E. Dawson and Henry Hildebrand at the Institute of Marine Science checked to a point 45 miles south of the Rio Grande along the Gulf Beach of Tamaulipas by air on September 15, 1955. Fish were observed dying and floating ashore in great numbers about 40 miles south of the Rio Grande. On the following day they checked 26 miles of beach from Playa Washington south and found dead fish in large quantities along 21 miles of beach. A water sample collected as a point 36 miles south of the Rio Grande contained a minimum of 22,000 *G. brevis* per milliliter. Information from fishermen and airplane pilots indicates at least 120 miles of coastline were affected in the state of Tamaulipas. Fish were still dying on September 27, 1955 along the Tamaulipas coast.

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GULF FISHERY INVESTIGATIONS

U. S. FISH AND WILDLIFE SERVICE

GALVESTON, TEXAS